

**Listing of Claims:**

Claims 1-8 (Canceled).

9. (New) A radiofrequency electric current ablation catheter comprising:  
a tip electrode;  
means for detecting a temperature of the tip electrode;  
a catheter shaft; and  
a portion for operation at a proximal end,  
wherein the tip electrode has a shape formed by connecting three or more spherical or approximately spherical surfaces having centers on a same straight line to each other with a curved surface.

10. (New) The ablation catheter according to Claim 9, wherein at least one of the three or more spherical or approximately spherical surfaces is a surface selected from a spherical surface, a surface of an ellipsoid of revolution having an axis on a central axis of the catheter, an egg-shaped surface having an axis on a central axis of the catheter and a hemispherical surface having an axis on a central axis of the catheter.

11. (New) The ablation catheter according to Claim 9, wherein the tip electrode has a length of 0.5 to 15 mm and a maximum outer diameter of 0.5 to 3 mm.

12. (New) The ablation catheter according to Claim 10, wherein the tip electrode has a length of 0.5 to 15 mm and a maximum outer diameter of 0.5 to 3 mm.

13. (New) The ablation catheter according to Claim 11, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.1 to 2 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.

14. (New) The ablation catheter according to Claim 12, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.1 to 2 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.

15. (New) The ablation catheter according to Claim 11, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.5 to 1.25 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.

16. (New) The ablation catheter according to Claim 12, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.5 to 1.25 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.

17. (New) The ablation catheter according to Claim 9, wherein the tip electrode has a length of 1 to 12 mm and a maximum outer diameter of 1 to 2.7 mm.

18. (New) The ablation catheter according to Claim 10, wherein the tip electrode has a length of 1 to 12 mm and a maximum outer diameter of 1 to 2.7 mm.

19. (New) The ablation catheter according to Claim 17, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.1 to 2 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.

20. (New) The ablation catheter according to Claim 18, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.1 to 2 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.

21. (New) The ablation catheter according to Claim 17, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.5 to 1.25 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.

22. (New) The ablation catheter according to Claim 18, wherein, when an average diameter of adjacent two spherical or approximately spherical surfaces is represented by  $D$  and a distance between centers of the adjacent two spherical or approximately spherical surfaces is represented by  $d$ ,  $d/D$  is 0.5 to 1.25 with respect to entire combinations of adjacent two spherical or approximately spherical surfaces.